

Appl. No. 09/864,468  
Amdt. Dated June 29, 2004  
Reply to Office action of April 1, 2004  
Attorney Docket No. P13111-US1  
EUS/JIP/04-2029

### REMARKS/ARGUMENTS

#### 1.) Allowable Subject Matter

The Applicants again thank the Examiner for the allowance of claims 3 and 4.

#### 2.) Claim Rejections – 35 U.S.C. §103(a)

The Examiner rejected claims 1 and 6 as being unpatentable over Chan, *et al.* (US 5,970,144) in view of Fox (US 5,765,172), and claims 2 and 7 as being unpatentable over Chan in view of Fox, and further in view of Antic, *et al.* (US 5,594,942). The Applicants traverse the rejections.

Claim 1 recites:

1. A method for updating location information of a mobile station when said mobile station has moved from an area controlled by a first mobile services switching center to an area controlled by a second mobile services switching center, said method comprising:

adding information relating to said mobile station to a second mobile services switching center database in response to said mobile station registering with said second mobile services switching center;

calculating a checksum on said second mobile services switching center database;

sending a home location register checksum to said second mobile services switching center from a home location register;

comparing said home location register checksum and said second mobile services switching center checksum; and

if said home location register checksum and said second mobile services switching center checksum are equal, sending a location registration signal from said second mobile services switching center to said mobile station. (emphasis added)

The Examiner, in rejecting Applicants' prior arguments, asserts that "[a]s the Applicant notes, Chan actually disclosed and taught calculating and comparing checksum that

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meet the limitations as per applicant claiming." The Applicants traverse this statement of the Examiner, as the Applicants made no such statement in the prior response; the Applicants statement was, in fact, the exact opposite of the Examiner's assertion, to wit:

As the Examiner notes, Chan fails to "specifically disclose calculating checksum and comparing checksum." The Applicants agree with the Examiner, but note that the Applicants' invention is much more than simply calculating and comparing checksums.

In other words, the Applicants statement agreed with the Examiner's statement that Chan fails to specifically disclose calculating checksum and comparing checksum, which the Examiner stated on the last line of page 4 of the Office Action dated November 26, 2003. Therefore, the Examiner has mischaracterized and failed to address the merits of Applicants' arguments.

To restate and expound upon Applicants' arguments, the Applicants' invention addresses a problem in wireless communications systems relating to invalid location information and is characterized, in part, by the processes of 1) calculating a checksum on a database associated with a mobile services switching center for a geographical region in which a mobile station is currently located (*i.e.*, a "second mobile services switching center"), 2) the transmission of a home location register checksum to that mobile services switching center from a home location register, 3) comparing those checksums, and 4) if the checksums are equal, sending a location registration signal to the mobile station. Chan fails to disclose any of those processes that *combined* comprise Applicants' invention.

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First, the Examiner asserts that that Chan discloses "calculating a checksum on said second mobile services switching center (fig. 3, col. 9 line 35 thru col. 11 line 65)" (should be "calculating a checksum on said second mobile services switching center database"). The Applicants have reviewed the referenced portion of Chan and find no such teaching. Although Chan does include the words "checksum" and "database," they are not used to describe the process of calculating a checksum on a mobile services switching center database. In contrast, the checksum described by Chan is used in combination with a random number as part of a key for use in encryption, which can be noted at column 10, line 13, where it is stated that: "In the preferred embodiment the A-Key is a 20 digit (64 bit) random number and a 6 digits checksum."

Second, the Examiner asserts that Chan discloses "sending a home location register checksum to said second mobile services switching center from a home location register (fig. 10b, col. 10 lines 13-35, and col. 16 line 66 thru col. 17 line 58)." The Examiner's references are confusing, because the Examiner refers to Figure 10b, but cites portions of the disclosure that are unrelated to that figure (e.g., col. 10 lines 13-35 describes the process of generating a secret key, and col. 16 line 66 thru col. 17 line 58 describes Figure 11, relating to a process for registering a mobile station, including authentication). The Applicants, however, have reviewed the complete disclosure of Chan and find no teaching of "sending a home location register checksum to [a] second mobile services switching center from a home location register."

Third, the Examiner asserts that Chan discloses "comparing said home location register authentication and said second mobile services switching center authentication (col. 10 lines 13-35, and col. 16 line 66 thru col. 17 line 58)" (emphasis added), which

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should be "comparing said home location register checksum and said second mobile services switching center checksum". The Applicants have reviewed the referenced portions of Chan and, although the words "compares" and "authentication" do appear therein, the word "checksum," as used in Applicants claims, does not. The Examiner has mischaracterized and failed to apply the teachings of Chan to the invention the Applicants have claimed.

Finally, the Examiner asserts that Chan discloses "if said home location register checksum and said second mobile services switching center checksum are equal, sending (transmit) a location registration signal from said second mobile services switching center to said mobile station (col. 1 line 46 thru col. 2 line 26, col. 5 line 54 thru col. 6 line 33, and col. 16 line 66 thru col. 17 line 58). Again, the Applicants have reviewed the referenced portions of Chan and find no teaching of the sending a location registration signal from a second mobile services switching center to a mobile station if a home location register checksum and the second mobile services switching center checksum are equal – particularly as that limitation is combined with the other limitations of claim 1.

The Examiner has apparently focused on the presence of a few keywords in Chan that correspond to words in Applicants claim limitations, without considering the functions of the individual limitations, and the combination of those functions to yield Applicants claimed invention. This is particularly apparent with respect to the claim limitation of "comparing said home location register checksum and said second mobile services switching center checksum" (emphasis added), which the Examiner has inexplicably changed to "comparing said home location register authentication and said

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second mobile services switching center authentication" (emphasis added) in comparing Applicants' invention to the teachings of Chan. Moreover, the Examiner in fact states that "Chan does not specifically disclose calculating checksum and comparing checksum." (Office Action, page 3, last sentence paragraph e).

Because Chan fails to teach, much less suggest, the use of checksums as a means to solve the problem solved by Applicants' invention, the Examiner has considered the teachings of Fox to cure the deficiencies of Chan, stating that Fox teaches "a method for calculating checksum and comparing checksum." In rejecting Applicants arguments from the prior response, the Examiner states that "Fox discloses or teaches the method of calculating checksum and comparing checksum to keep the integrity of databases." Fox, however, does not disclose the application of calculating or comparing checksums to the problem addressed by Applicant's invention. Furthermore, as noted *supra*, Chan is also not directed to the problem addressed by Applicant's invention and, thus, there is no suggestion or teaching to look to the teachings of Fox to solve that problem. In fact, Fox does not mention mobile services switching centers, much less the communication and comparison of checksums between mobile services switching centers and home location registers. Accordingly, Fox fails to cure the many deficiencies of Chan.

Therefore, Chan and Fox, either taken alone or in combination, fail to teach each and every limitation of claim 1 and, thus, the Examiner has failed to establish a *prima facie* case of obviousness of claim 1. Whereas claim 2 is dependent from claim 1, and includes the limitations thereof, that claim is also patentable over Chan in view of Fox. Accordingly, the Applicants respectfully request that the Examiner withdraw the

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rejection of claims 1 and 2. Furthermore, whereas claim 6 recites limitations analogous to those of claim 1, it is also patentable over Chen in view of Fox, as is claim 7 which is dependent therefrom.

### **CONCLUSION**

In view of the foregoing remarks, the Applicants believe all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 1-4 and 6-7.

The Applicants request a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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